



# **PENTAGON RENOVATION PROGRAM**

*On Cost, On Schedule,  
Built for the Next 50 Years*

<http://renovation.pentagon.mil>  
703-697-HELP (4357)









When the building collapsed the structure was held together by the “web” of steel columns that are all bolted in place along the floors.





Structural steel, running through all five floors, strengthens the walls around the blast resistant window units. A geo-technical mesh is stretched between the steel tubes to prevent debris from becoming shrapnel in the event of an external explosion.



Some of the blast resistant windows in Wedge 1 did not shatter despite the enormous pressure placed on them by the impact.





The old windows in Wedge 2 were shattered by the impact. Blast resistant windows in Wedge 1 are still in place directly above where the plane entered the Pentagon.

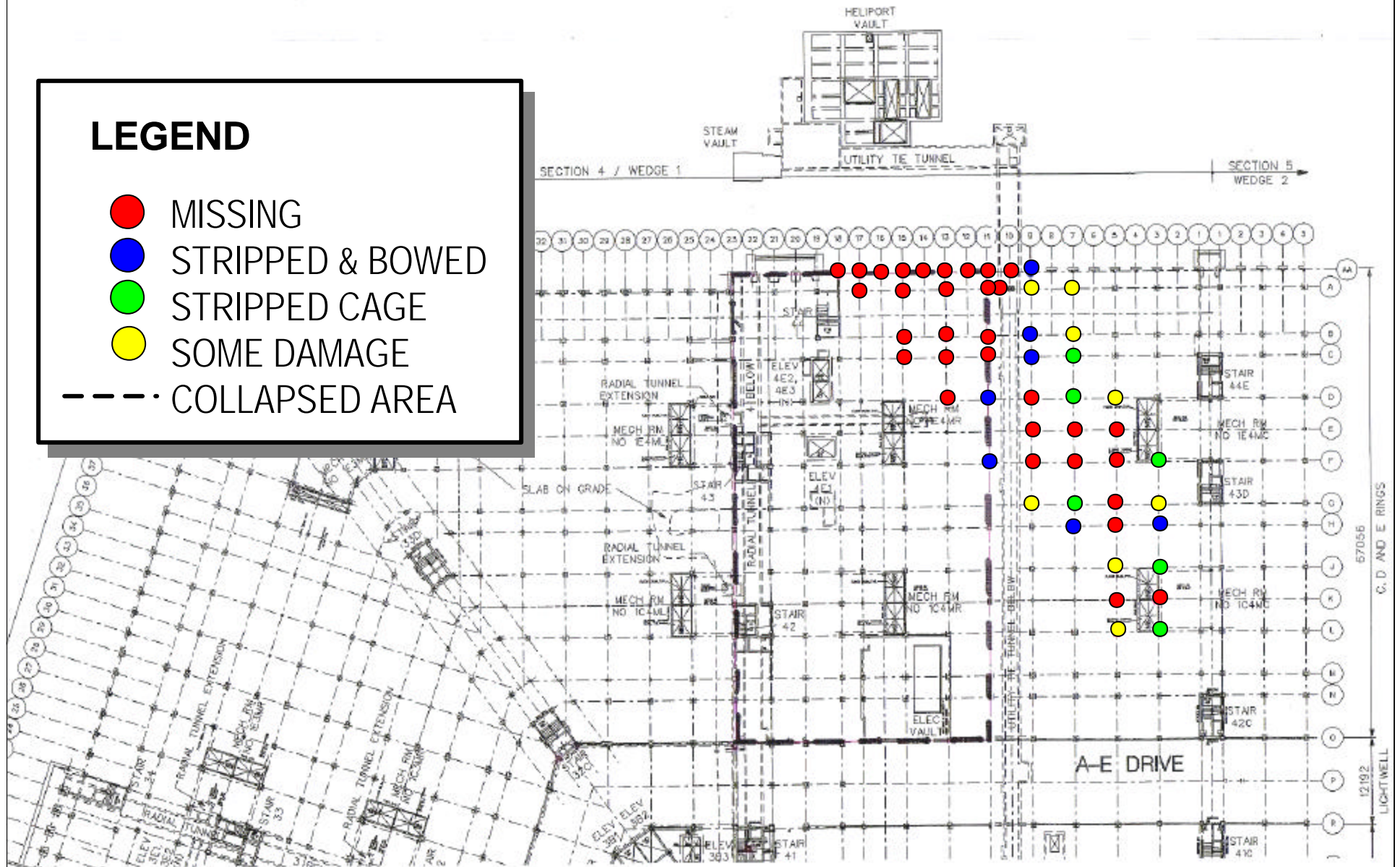




# STRUCTURAL INTEGRITY

## LEGEND

- MISSING
- STRIPPED & BOWED
- STRIPPED CAGE
- SOME DAMAGE
- COLLAPSED AREA







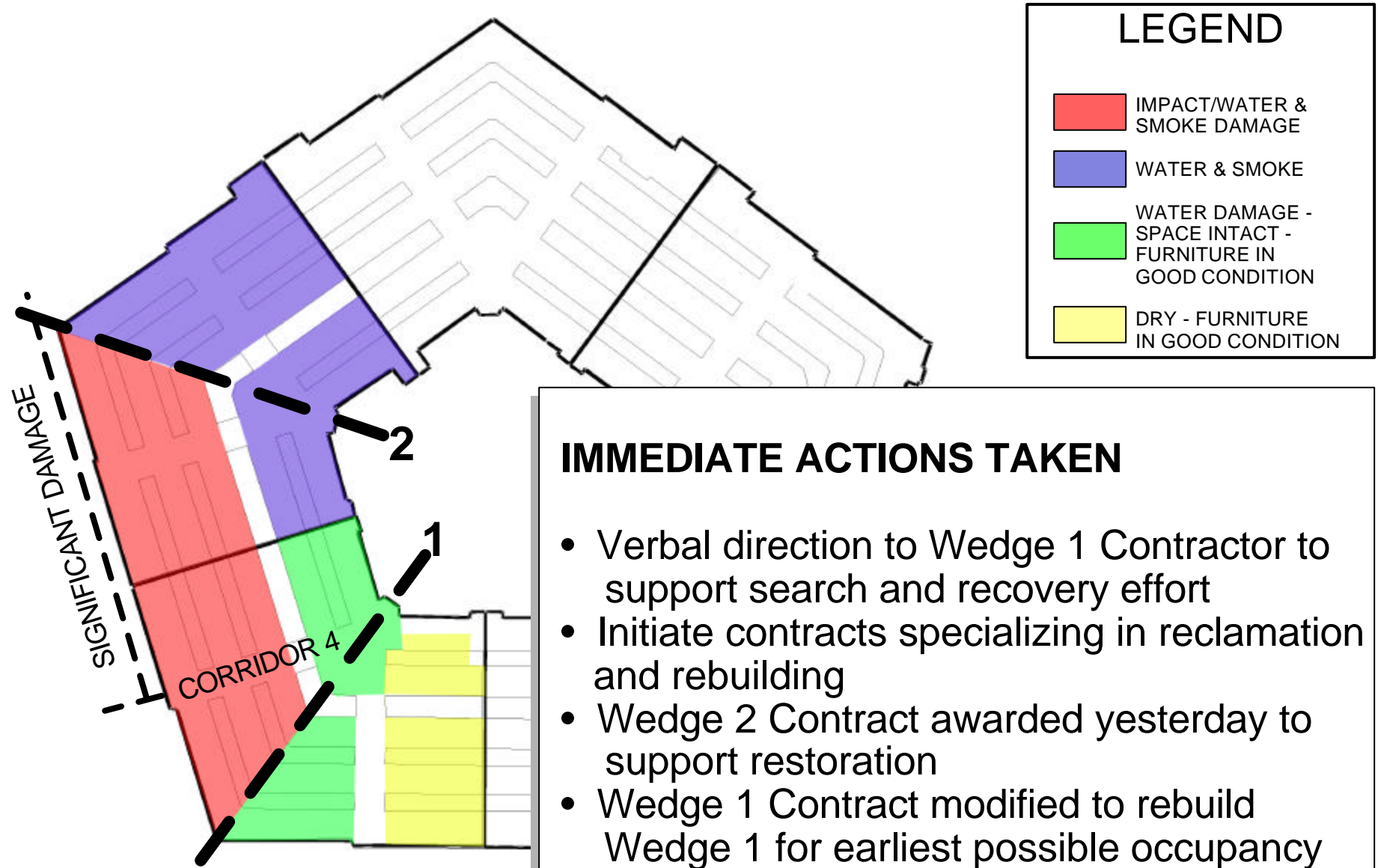
Despite columns being sheared off by the plane entering the Pentagon, portions of the building did not collapse due to the structural steel reinforcing the external walls.

Temporary columns were erected to provide support where the original columns had been demolished.





# AREAS WHERE IMMEDIATE WORK IS TO BE PERFORMED





# Wedge 2-5 Contract Highlights

- Award Value - \$145M
- Potential Total Value - \$758M
- Building Space - 4,000,000 square feet
- Performance Period - 2001-2012
- Design-Build Contractor - Hensel Phelps Construction Co.



# **SECURITY IMPROVEMENTS MADE BY PENTAGON RENOVATION PROGRAM**

|                                                      |                            |
|------------------------------------------------------|----------------------------|
| REMOTE DELIVERY FACILITY                             | COMPLETE                   |
| METRO ENTRANCE FACILITY                              | UNDER CONSTRUCTION         |
| SOUTH TERRRACE BRIDGES                               | COMPLETE                   |
| REPLACEMENT OF EXTERIOR<br>HIGH PRESSURE WATER LINES | COMPLETE                   |
| REDUNDANT EXTERIOR<br>COMMUNICATIONS                 | COMPLETE                   |
| BLAST RESISTANT WINDOWS                              | CONCURRENT WITH RENOVATION |
| TEMPERED GLASS WINDOWS                               | CONCURRENT WITH RENOVATION |
| STEEL REINFORCEMENT FOR<br>EXTERIOR WALLS            | CONCURRENT WITH RENOVATION |
| KEVLAR CLOTH BACKING FOR<br>EXTERIOR WALLS           | CONCURRENT WITH RENOVATION |
| MONITORING & CONTROL<br>SYSTEM                       | CONCURRENT WITH RENOVATION |
| BUILDING OPERATIONS AND<br>CONTROL CENTER            | COMPLETE                   |
| FIRE SPRINKLERS                                      | COMPLETE                   |
| AUTOMATIC FIRE DOORS                                 | CONCURRENT WITH RENOVATION |
| COMPLIANCE WITH FIRE SAFETY<br>CODE/ADA COMPLIANCE   | CONCURRENT WITH RENOVATION |



# **WEDGE 1 & WEDGES 2-5 CONTRACTORS**

## **WEDGE 1**

### **AMEC**

ACECO LLC  
FACCHINA CONST., INC.  
BRAGUNIER MASONRY CONST., INC.  
GLODE IRON CONST. CO.  
KEY WOODWORKING, INC  
PROSPECT WATERPROOFING CO.  
SWINGING DOOR, INC.  
C.J. COAKLEY  
ROMEN MOAIC & TILE CO.  
JOHN J. KIRLIN, INC.  
SINGLETON ELECTRIC CO.  
CAPCO CONTRACTING CO.  
CURTIS EQUIPMENT CO.  
MUFTI INTERNATIONAL, INC.  
ROSH CONST.  
BALCO  
BETA CONSTRUCTION  
LINEL SIGNATURE SKYLITE  
OVERHEAD DOOR OF DC  
WON DOR  
ERNST LEE TILE CO.  
ZANES SPECIALTIES  
ROCKVILLE PARTITIONS, INC.  
TRISTATE  
ROBB ASSOCIATES  
WINSTEAD  
JCC CONSTRUCTION  
JEWELL

## **WEDGES 2-5**

### **HENSEL PHELPS CONSTRUCTION CO.**

SHALOM BARANES ASSOCIATES  
HDR ARCHITECTURE, INC.  
SOUTHLAND INDUSTRIES  
MC DEAN